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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,097	04/10/2006	Akiko Kihara	BJS-1114-232	3648

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EXAMINER	
VAJDA, PETER L	

ART UNIT	PAPER NUMBER
1795	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/575,097	KIHARA ET AL.	
	Examiner	Art Unit	
	PETER L. VAJDA	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 November 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 April 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *01/08/2007*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

The applicant's reply filed 11/24/2008 has been received and considered. The applicant has filed two terminal disclaimers which have been accepted and therefore all obviousness double patenting rejections posted in the prior office action are withdrawn. In response to the applicant's arguments, the 35 USC 103(a) rejections over JP 06-043674 in view of Nakata *et al*. and the rejection over JP 06-043674 in view of Nakata *et al*. and further in view of Diamond are withdrawn. All other posted rejections are maintained and a complete response to the applicant's arguments is presented below. Please note that the information disclosure sheet (IDS) filed 01/08/2007 contains a reference to Morikawa *et al*. that could not be retrieved and has been lined through and removed from the IDS.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Obata *et al*. (US PGP 2004/0101770) in view of Nakata *et al*. (US PGP 2002/0119382).

This rejection was provided in a prior office action and is incorporated entirely herein. Obata teaches that plural binder resins may be used in forming the charge generating layer (p. 60 [0146]).

Claims 1, 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2002-365820 in view of Nakata *et al*. (US PGP 2002/0119382).

This rejection was provided in a prior office action and is incorporated entirely herein.

Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2003-012619 in view of Nakata *et al*. (US PGP 2002/0119382).

This rejection was provided in a prior office action and is incorporated entirely herein.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2002-365820 in view of Nakata *et al*. (US PGP 2002/0119382) as applied to claims 1, 3-5 above, and further in view of Diamond (p. 160-62).

This rejection was provided in a prior office action and is incorporated entirely herein.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2002-365820 in view of Nakata *et al*. (US PGP 2002/0119382) as applied to claims 1, 3-5 above, and further in view of JP 06-059471.

The complete discussions of JP '820 and Nakata *et al*. were presented in a prior office action and are incorporated in their entirety herein. Neither JP '820 nor Nakata *et al*., however, teach the use of two polycarbonate resins in their charge transporting layer.

JP 06-059471 teaches a photoreceptor comprising a laminate configuration and wherein the photosensitive layers contain two kinds of polycarbonate resins. This is taught to supply the photoreceptor with improved endurance, mechanical strength, resistance to fogging, crack resistance, and stability of electrification potential. Furthermore, it is taught that the polycarbonate resins show improved compatibility to charge transporting compounds as well ([0005-6]). Although the two polycarbonate resins are taught for use in photosensitive layers generally, JP '471 teaches that when a laminate structure is employed for the photoreceptor it is preferable to use the polycarbonates as binding resins for the charge transport layer ([0015]).

Nakata teaches that by having a high hardness, in a range of about 275 to 380 N/mm2, the durability of the photoreceptor as well as the film strength and the abrasion resistance are all improved. JP '471 teaches that by employing a specific combination of two polycarbonates, instead of one taught by JP '820, improved endurance, mechanical strength, resistance to fogging, crack resistance, compatibility to the charge transporting material, and stability of electrification potential are achieved. Therefore, it

would have been obvious to any person of ordinary skill in the art at the time of the invention to have formed the photoreceptor of JP '820 to have the two polycarbonates taught by JP ‘471 instead of one polycarbonate and a high hardness as taught by Nakata in the range of about 275 to 380 N/mm2. This would have improved the durability, film strength, endurance, and abrasion resistance of the photoreceptor of JP ‘820.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2003-012619 in view of Nakata *et al*. (US PGP 2002/0119382) as applied to claims 1-6 above, and further in view of JP 06-059471.

The complete discussions of JP ‘619 and Nakata *et al*. were presented in a prior office action and are incorporated in their entirety herein. Neither JP ‘619 nor Nakata *et al*., however, teach the use of two polycarbonate resins in their charge transporting layer.

JP 06-059471 teaches a photoreceptor comprising a laminate configuration and wherein the photosensitive layers contain two kinds of polycarbonate resins. This is taught to supply the photoreceptor with improved endurance, mechanical strength, resistance to fogging, crack resistance, and stability of electrification potential. Furthermore, it is taught that the polycarbonate resins show improved compatibility to charge transporting compounds as well ([0005-6]). Although the two polycarbonate resins are taught for use in photosensitive layers generally, JP '471 teaches that when a

laminate structure is employed for the photoreceptor it is preferable to use the polycarbonates as binding resins for the charge transport layer ([0015]).

Nakata teaches that by having a high hardness, in a range of about 275 to 380 N/mm2, the durability of the photoreceptor as well as the film strength and the abrasion resistance are all improved. JP '471 teaches that by employing a specific combination of two polycarbonates, instead of one taught by JP '619, improves endurance, mechanical strength, resistance to fogging, crack resistance, compatibility to the charge transporting material, and stability of electrification potential are achieved. Therefore, it would have been obvious to any person of ordinary skill in the art at the time of the invention to have formed the photoreceptor of JP '619 to employ the two polycarbonate resins as binder resins as taught by JP '619 and to have a high hardness as taught by Nakata in the range of about 275 to 380 N/mm2. This would have improved the durability, film strength, endurance and abrasion resistance of the photoreceptor of JP '619.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Obata *et al*. (US PGP 2004/0101770) in view of Nakata *et al*. (US PGP 2002/0119382) as applied to claims 1-6 above, and further in view of JP 06-059471.

The complete discussions of Obata *et al*. and Nakata *et al*. were presented in a prior office action and are incorporated in their entirety herein. Neither Obata *et al.* nor Nakata *et al*., however, teach ab embodiment disclosing the use of two polycarbonate

resins in their charge transporting layer. This rejection is applied in the event that the disclosure of Obata *et al*. cited above is deemed insufficient to reject pending claim 7.

JP 06-059471 teaches a photoreceptor comprising a laminate configuration and wherein the photosensitive layers contain two kinds of polycarbonate resins. This is taught to supply the photoreceptor with improved endurance, mechanical strength, resistance to fogging, crack resistance, and stability of electrification potential. Furthermore, it is taught that the polycarbonate resins show improved compatibility to charge transporting compounds as well ([0005-6]). Although the two polycarbonate resins are taught for use in photosensitive layers generally, JP '471 teaches that when a laminate structure is employed for the photoreceptor it is preferable to use the polycarbonates as binding resins for the charge transport layer ([0015]).

Nakata teaches that by having a high hardness, in a range of about 275 to 380 N/mm2, the durability of the photoreceptor as well as the film strength and the abrasion resistance are all improved. JP ‘471 teaches that by employing a specific combination of two polycarbonates, instead of one taught by Obata *et al.*, improved endurance, mechanical strength, resistance to fogging, crack resistance, compatibility to the charge transporting material, and stability of electrification potential are achieved. Therefore, it would have been obvious to any person of ordinary skill in the art at the time of the invention to have formed the photoreceptor of Obata *et al.* to employ the two polycarbonate resins taught by JP ‘471 and to have a high hardness as taught by Nakata in the range of about 275 to 380 N/mm2. This would have improved the

durability, film strength, endurance and abrasion resistance of the photoreceptor of Obata *et al*.

Response to Arguments

Applicant's arguments filed 11/24/2008 have been fully considered but they are not persuasive. The applicant has argued that Obata *et al*. is only available under 35 USC 102(e) because the applicant has claimed the benefit of priority of JP 2003-349644. No certified English translation of JP 2003-349644, however, has been filed which is necessary to establish proper priority of all claims.

The applicant also argues, regarding JP 2002-365820 (henceforth JP '820) that R4 must be an aryl group. The quotation relied upon by the applicant which states "R4 R3, The aryl group" is respectfully misinterpreted. In this quotation, "The aryl group" refers to R5 and R6. The same paragraph teaches that R4 and R3 may be an aryl group, an aralkyl group and a heterocycle group which may be substituted. Furthermore, contrary to the applicant's assertion, JP '820 is not limited to compounds exemplified in structures 1-1 to 1-10. A reference is valid for all that it teaches. The applicant further argues that since Nakata *et al*. teach a charge transporting layer and a protective layer comprising a charge transporting substance the combination of Nakata and JP '820 would not have been combined in the absence of hindsight. As shown in the previous office action, JP '820 teaches a charge transporting surface layer that is almost identical in composition to the applicant's. As such, the surface charge

transporting layer of JP ‘820 would be expected to have very closely similar hardness and creep values to that of the applicant. Nakata teaches the benefits of a hard surface layer with a universal hardness value within a certain range. Nakata teaches that the amount of charge transporting substance that is crosslinked into the surface protective layer is a determinate in the strength of the layer. Nakata teaches that if too great an amount of charge transporting substance is employed in the layer, the strength of the layer will be lowered (p. 31 [0070]). JP '820 teaches, in accord with the teachings of Nakata, that the charge transporting substance bind to the binder resin of the surface charge transporting layer. Both Nakata and JP ‘820 teach that the charge transporting compounds be incorporated into the resin network of the surface layer and Nakata teaches that by supplying the charge transport compound in a certain amount respective to the binder resin a desired universal hardness can be achieved (p. 31 [0070]). Therefore, the skilled artisan would have readily recognized that the universal hardness of the charge transporting layer of JP ‘820 could have been manipulated to be in the range taught by Nakata by adjusting the ratio of the charge transporting substance and the binder resin. Since the charge transporting layers of the applicant and JP '820 are so similar in composition it is clear that obtaining such a universal hardness would have been possible. For clarity, however, the similarity between the applicant's invention and that of JP '820 provides no motivation whatsoever for improving the universal hardness of JP '820, it only shows that such a hardness is obtainable. Nakata supplies ample motivation to one of ordinary skill in the art to seek

to improve the photoreceptor of JP '820 by improving the hardness of the surface charge transporting layer.

The applicant further argues that JP 2003-012619 teaches enamine compounds of formula (1) wherein the Ar1 and Ar2 are required to be bridged and therefore do not represent separate Ar1 and Ar2 groups as allegedly required by the presently claimed invention. However, there is no language in the pending claims requiring that Ar1 and Ar2 be separate substituents as alleged by the applicant. Furthermore, giving the claim its broadest reasonable interpretation, the Ar1 and Ar2 groups can be bridged. Claim 1 recites, "wherein Ar1 and Ar2 each represent an aryl group which may have a substituent or a heterocyclic group which may have a substituent." JP '619 teaches such a formula wherein Ar1 and Ar2 are each aryl groups and are bound through their substituents. The claim language of the present application recites only that the Ar1 and Ar2 groups be aryl groups and does not preclude Ar1 and Ar2 from being bridged and therefore the compounds taught by JP '619 read on the applicant's general formulas represented in pending claims 1-6.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PETER L. VAJDA whose telephone number is (571)272-7150. The examiner can normally be reached on 7:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Christopher RoDee/
Primary Examiner, Art Unit 1795

/PLV/ 02/18/2009